



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

95

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/856,164	11/13/2001	Frederic Nicolas	P66724USO	9477
136	7590	06/15/2004	EXAMINER	
JACOBSON HOLMAN PLLC			NGUYEN, JIMMY H	
400 SEVENTH STREET N.W.				
SUITE 600			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20004			2673	12
DATE MAILED: 06/15/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/856,164	NICOLAS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jimmy H. Nguyen	2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 06 April 2004.

2a) This action is FINAL.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 1-19 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All    b) Some \* c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.

4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.

5) Notice of Informal Patent Application (PTO-152)

6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

1. This Office Action is made in response to applicant's amendment filed on 04/06/2004 (entered into the file wrapper as Paper No. 10). Claims 1-19 are currently pending in the application. An action follows below:

### ***Specification***

2. The disclosure is objected to because of the following informalities: there is a redundant paragraph at the end of page 2. See the attached copy of page 2. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 2, 10, 11 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki et al. (USPN: 5,005,460), hereinafter Suzuki.

As per claims 1, 2 and 11, the claimed invention reads on Suzuki as follows: Suzuki discloses an apparatus for transforming the movements of the joint such as an elbow (fig. 12) or fingers (see figs. 23A-23C), into control signals for a computer (a computer, as shown in fig. 13, includes elements 118 and 125-131), the apparatus comprising a sleeve (a supporter 7b, fig. 12) and a movement sensor (a sensor including a potentiometer 8b and a lever 12b, fig. 12) fixed to the sleeve (7b) and being an on/off sensor that is directly subject to the movements of the sleeve (7b) (see fig. 2, col. 1, lines 29-40). Suzuki further teaches the sensor (8b, 12b) to be placed and

Art Unit: 2673

held in a hollow of the joint (see fig. 12). Accordingly, the Suzuki reference anticipates the invention defined in claims above.

Regarding to claims 10 and 19, Suzuki further teaches a processor module (a module comprising a receiver 119, fig. 13, col. 8, lines 9-14) suitable for transforming the output signals from the sensor (8b) into signals usable by the computer (col. 7, line 53 through col. 8, line 14).

5. Claims 1-3, 6-12 and 15-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Curchod (USPN: 5,826,578).

As per claims 1, 2, 6-8, 11, 12 and 15-17, the claimed invention reads on Curchod as follows: Curchod discloses an apparatus (see fig. 2) for transforming the movements of the joint such as a knee, a shoulder, a hip, or an ankle, into control signals (signals generated by each of the sensors 22, col. 4, line 40) for a computer (a display device 32, fig. 2), the apparatus comprising a sleeve (a pair of straps 28, fig. 3) for putting over the knee joint (24) (fig. 3) and a movement sensor (a sensor 22 and a pair of rods 26, fig. 3, col. 3, line 34) fixed to the sleeve (28) and being an on/off sensor that is directly subject to the movements of the sleeve (28) (col. 4, lines 1-8). Curchod further teaches the sensor (22, 26) designed to be placed and held in the hollow of the elbow joint or ankle joint (fig. 2). Accordingly, the Curchod reference anticipates the invention defined in claims above.

Regarding to claims 3 and 12, Curchod further teaches the sensor (22, 26) including a magnetic detector (a sensor 22) and a piece (26) detectable by the magnetic detector (22) (fig. 3, col. 4, lines 6-14).

Art Unit: 2673

Regarding to claims 9 and 18, as noting in fig. 9 and at col. 8, lines 40-49, Curchod further teaches the apparatus comprising mechanical members (vibrators 70) for applying mechanical actions on parts of the user's body under control of the computer (30).

Regarding to claims 10 and 19, Curchod further teaches a processor module (a processor 30, fig. 2) suitable for transforming the output signals from the sensor into signals usable by the computer (32) (col. 4, lines 39-59).

6. Claims 1, 2, 4, 11 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Carmein (USPN: 5,490,784, cited in IDS filed on 01/21/2002).

As per claims above, the claimed invention reads on Carmein as follows: Carmein discloses an apparatus (see fig. 13) for transforming the movements of the joint, such as a knee, into control signals (signals generated by the sensor 541, fig. 14) for a computer (a computer 34, col. 5, lines 53-55), the system comprising a sleeve (a pneumatic support suit 501, fig. 13) for putting over the knee joint (506) (fig. 13) and a movement sensor (a pressure sensor 541 and a sealed chamber 540, fig. 14) fixed to the sleeve (501), including an air bag (a sealed air chamber 540, col. 12, lines 17-18) and a sensor (a pressure sensor 541, col. 12, line 18), and being an on/off sensor that is directly subject to the movements of the sleeve (501) (col. 12, lines 15-37). Further, Carmen discloses the sensor (540, 541) placed and held in a hollow of the knee (see fig. 14). Accordingly, the Carmein reference anticipates the invention defined in claims above.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2673

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki.

Regarding to these claims, as discussed in the rejection above, Suzuki discloses, in an embodiment as shown in fig. 12, the movement sensor (8b, 12b) including a potentiometer (8b) and a lever (12b) (see fig. 12). Suzuki further teaches that the sensor including a mechanically-controlled switch (a push button switch 40, figs. 5 and 6, col. 3, line 17) and a projecting piece (a piece including elements 36-38, see fig. 6), for detecting the movements of the joint is well-known to one of ordinary skill in the art (see figs. 5 and 6, col. 3, lines 3-30). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to substitute the well-known sensor as discussed above for the sensor of the invention as illustrated in fig. 12, because one of ordinary skill in the art would have found it obvious to utilize the mechanical sensor to reduce the electrical power provided to the sensor.

9. Claims 6-8 and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki, and further in view of Curchod.

Regarding to these claims, as discussed in the rejection above, Suzuki discloses the sensor (8b) placed on the elbow (fig. 12) or fingers (figs. 23A-23C). Suzuki does not disclose expressly the sensor placed on a shoulder as recited in claims 6 and 15, on a hip as recited in claims 7 and 16, or on an ankle joint as recited claims 8 and 17. Accordingly, the Suzuki reference discloses all the claimed limitations except for the sensor placed on a shoulder, a hip or an ankle joint.

However, Curchod teaches a plurality of sensors (22) placed on a shoulder, hip, a knee and an ankle of the user (see fig. 2) in order to detect the movements of these joints and human

Art Unit: 2673

body. It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to place the sensor on a shoulder, a hip or an ankle joint, in the apparatus of Suzuki, in view of the teaching in the Curchod reference because one of ordinary skill in the art would have found it obvious to place the sensor on any joint(s) of the user, so as to detect the movements of the joint(s), in accordance with a particular application.

***Response to Arguments***

10. It is noted Applicants that the drawing objections, the specification objections in paragraphs 3 and 4, the claim objections and the rejection under 35 USC 102(e), in the last Office Action dated 10/06/2003, are hereby withdrawn in view of the amendment and the declaration under 37 C.F.R. 1.131, both filed on 04/06/2004.

11. With respect to the specification objection regarding a redundant paragraph, in the last Office Action dated 10/06/2003, or the specification objection above, Applicants state "... Applicants are not certain as to the basis of this objection, noting no redundancy, and request clarification", page 10, lines 11-15, please see the attached copy of page 2.

12. Applicant's arguments with respect to Curchod and Carmein references, filed "This is unlike the simpler, more streamlined operation of the on/off sensor according to the present invention which, as stated, is either "on" or "off"", page 12, lines 11-14, and "In conclusion, neither of these two patents, Curchod or Carmein, disclose or suggest the particular feature of the present invention according to which the sensor is an on/off sensor. Thus, neither of these two documents provides the advantage of such an on/off sensor, i.e., uncomplicated processing on a simple binary output signals and thus more efficient control of the equipment and of the software, for example, in the case of video games", page 13, lines 5-12, have been fully

Art Unit: 2673

considered but they are not persuasive because (i) the underlined features are not recited in the claims, and (ii) the sensor of the claimed inventions is defined to be an on/off sensor that is directly subject to the movements of the sleeve in the hollow of the joint, i.e., any sensor, that is directly subject to the movements of the sleeve in the hollow of the joint, can be considered as the claimed sensor. Further, it is noted to applicants that limitations from the specification are not read into the claims.

*Conclusion*

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is (703) 306-5422. The examiner can normally be reached on Monday - Thursday, 8:00 a.m. - 5:00 p.m..

Art Unit: 2673

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at (703) 305-4938.

**Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

JHN  
June 10, 2004



Jimmy H. Nguyen  
Examiner  
Art Unit: 2673

least one point of a user selected from the group constituted by the knee, the elbow, the shoulder, the hip, or the ankle, into control signals for a computer, the system comprising a sleeve for putting on over the 5 joint and a movement sensor fixed to the sleeve, the apparatus being characterized in that the sensor is an on/off sensor and is directly subject to the movements of the walls of the sleeve.

*10 ↗ BS* The present apparatus makes it possible to use body movement sensors with home type games consoles or with a personal computer, e.g. running existing video games.

Other objects, characteristics, and advantages of the invention will appear on reading the following detailed description given with reference to the 15 accompanying figures, in which:

- Figure 1 is a diagram of apparatus of the invention without the user;
- Figure 2 shows the same apparatus, in place on a ;
- Figure 3 shows a games handset;
- Figure 4 shows such a games handset coupled to an elbow-movement sensor of the invention;
- Figure 5 shows a switch movement sensor in another variant of the invention;
- Figure 6 shows an elbow-movement sensor operating on air pressure, constituting another variant of the invention;
- Figure 7 shows apparatus of the invention in a detailed front view;
- Figure 8 is a block diagram representing the operation of a central processor module for the Figure 7 apparatus;
- Figure 9 is a diagram showing the operation of a two-part unit constituted by a movement sensor and a 35 control handset for the apparatus of Figures 7 and 8; and
- Figure 10 is a diagram showing the operation of a knee movement sensor of the apparatus of Figures 7 and 8.

#### AMENDED SHEET

This translation of an amended page covers the amendments made in the original. However, the page breaks match the translation, so that this page is also a replacement page that fits in with the remainder of the translation.